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NATIONAL ASTRONOMY AND IONOSPHERE CENTER

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June 14, 1993

BY FEDERAL EXPRESS

Ms. Donna R. Searcy
Secretary
Federal Communications Commission
1919 M Street, N.W., Room 222
Washington, D.C. 20554

Re: Amendment of Section 2.106 of the Commission's Rules to Allocate Spectrum for Wind Profiler Systems. ET Docket No. 93-59, RM-8092

Dear Ms. Searcy:

Enclosed are comments by Cornell University which operates the Arecibo Observatory in Arecibo, Puerto, regarding the Notice of Proposed Rulemaking and Notice of Inquiry referenced above.

Sincerely yours,

Gerald E. Spillman
Electronics Engineer

Willem A. Baan
Senior Research Associate
and Frequency Manager

gs

Enclosure

cc: Mike Kimberley, Esq. (w/ encl.)
Dr. Paul Goldsmith (w/ encl.)
Dr. Daniel Altschuler (w/ encl.)

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BEFORE THE

FEDERAL COMMUNICATIONS COMMISSION

WASHINGTON, D.C. 20554

In the Matter of	)	
	)	
Amendment of Section 2.106 of	)	
the Commission's Rules to	)	ET Docket No. 93-59
Allocate Spectrum for	)	RM-8092
Wind Profiler Radar Systems	)	

To: The Chief, Policy and Rules Division

Cornell University ("Cornell") hereby submits its comments in response to the Notice of Proposed Rulemaking and Notice of Inquiry adopted March 10, 1993.

I. Interest of Cornell.

1. Cornell operates the Arecibo Observatory at Arecibo, Puerto Rico, under a cooperative agreement with the National Science Foundation ("NSF") and is part of the National Astronomy and Ionosphere Center. The Observatory houses the world's largest radio/radar telescope which has a reflector 1000 feet in diameter, an observation platform suspended above the reflector and above the surrounding terrain, and a primary surface collection area covering 20 acres. The Arecibo Observatory is located approximately 17 kilometers south of Arecibo. The Observatory operates in the 420 MHz to 440 MHz band using both sensitive receivers and a high power radar transmitter.

II. Impact of a Wind Profiler operation at 449 MHz on the Observatory.

2. Calculations using the typical wind profiler peak transmitter output power of 40 kilowatts , the typical transmitting antenna gain toward the horizontal, and the spectral emission at 435 MHz, it is found that a wind profiler located within 65 kilometers of the Observatory could cause interference to observations at the Observatory in the 430 MHz band, assuming there are no terrain obstructions. Therefore, Cornell is concerned about the impact of any potential Wind Profiler installations within Puerto Rico operating at 449 MHz.

3. The Arecibo Observatory also has operated a narrow band (10 MHz) radar transmitter at 430 MHz with a peak transmitter output power of 1 MW for several years. Although the main beam of this transmitter is limited to pointing within 20° of zenith (straight up), the

radiation in the horizontal plane of this transmitter is relatively low, and the spectral emission at 449 MHz is greatly suppressed, there is a remote potential that interference could be caused to a wind profiler located close enough and within radio line-of-sight of the Observatory.

4. Paragraph 11 of the NPRM states that wind profiler locations be pre-coordinated with the military services to protect fixed military radars. Cornell requests that wind profiler locations within Puerto Rico be pre-coordinated to protect the existing Arecibo Observatory operation as is proposed for the fixed military systems. Cornell requests that appropriate language be incorporated in footnote US329.

III. Non-Government Wind Profilers Authorized at 449 MHz.

5. Paragraph 11 of the NPRM requests comments on whether non-Government systems should be required to comply with the same technical standards and coordination procedures as Government systems if non-Government wind profilers are authorized at 449 MHz. Cornell's opinion is that non-Government wind profilers should adhere to the same standards and coordination procedures as Government systems. Cornell requests that non-Government wind profilers locations within Puerto Rico also be pre-coordinated with the Observatory.

Respectfully submitted,

CORNELL UNIVERSITY

By:

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By:

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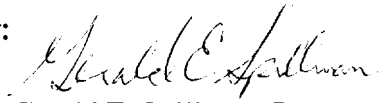
By: 

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